

REMARKS

Claims 1 to 11 as amended above are present for purposes of prosecution. Claims 12 to 23 are withdrawn as being directed to non-elected inventions.

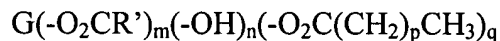
Reconsideration of the rejection of this application is respectfully requested in view of the above amendments and the following remarks.

Claims 1 to 11 have been amended so that they define the Group III elected invention, that is, compounds of formula I wherein  $-O_2CR'$  is as defined in formula Ib wherein X is  $-CHR^5-$  or  $-CH_2CHR^5-$ .

As requested by the Examiner, the Abstract has been rewritten to include the general nature of the compound claimed including its intended use as well as an example of a species which is illustrative of a member of the elected class.

A discussion of Applicants' compounds as now claimed follows.

Applicants' compounds as now claimed in Claim 1 are triglyceride and triglyceride-like prodrugs of glycogen phosphorylase inhibiting compounds which have the structure



I

wherein

G is a  $C_3$  to  $C_5$  branched or straight carbon chain and  $(-O_2CR')$ ,  $(-OH)$  and  $(-O_2C(CH_2)_pCH_3)$  are attached to any available carbon atom along G;

m is 1 to 4;

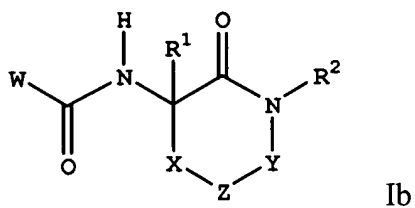
n is 0 to 3;

p is 0 to 16;

q is 0 to 3;

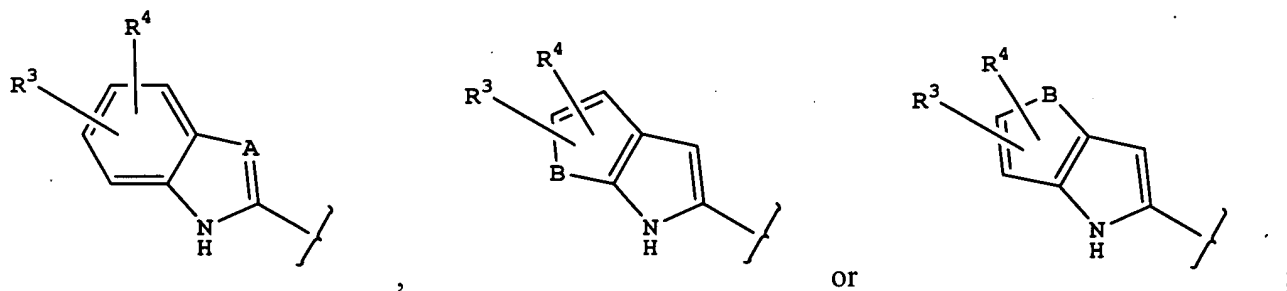
where the sum of m, n and q is 3 or 4; and

$-O_2CR'$  is a fragment of a compound of formula



wherein

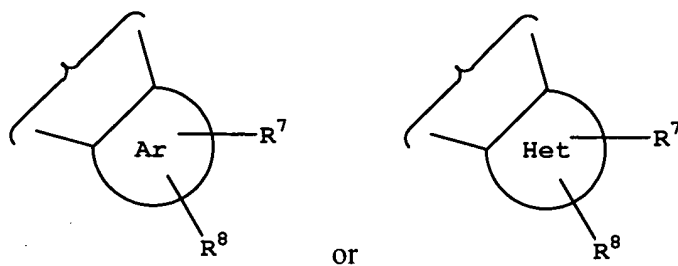
W is a bicyclic heteroaryl of the structure



X is  $-\text{CHR}^5-$  or  $-\text{CH}_2\text{CHR}^5-$ ;

Y is a bond or  $-\text{CHR}^6-$ ;

Z is an aryl or heteroaryl group of the following structure:

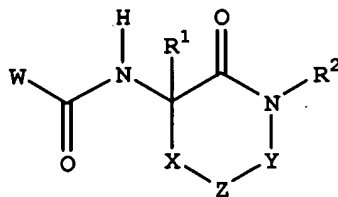


A is  $-\text{CH}-$  or  $-\text{N}-$ ;

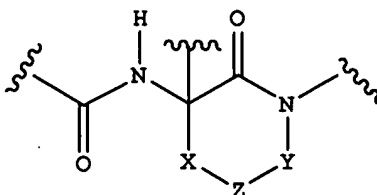
B is  $-\text{O}-$  or  $-\text{S}-$ ;

$\text{R}^1, \text{R}^2, \text{R}^5, \text{R}^6, \text{R}^7$  and  $\text{R}^8$  are as defined in Claim 1.

Please note that all of Applicants' compounds as claimed must have at least one  $-O_2CR'$  group which is a fragment of



where X is  $-CHR^5-$  or  $-CH_2CHR^5-$ . All of Applicants' compounds as claimed must include the moiety



Neither of the cited references discloses compounds which include this moiety or a triglyceride-like prodrug which includes this moiety.

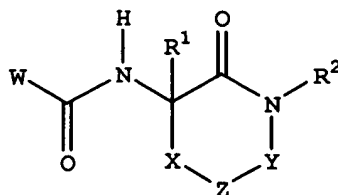
It is submitted that Applicants' compounds as claimed are patentable over all the cited references, each taken alone or in combination.

Claims 1 to 11 are rejected under 35 U.S.C. §102(b) as being anticipated by Cheng et al. (WO 01/21602A1).

The Examiner contends that

“Applicant teaches triglyceride-like prodrugs of glycogen phosphorylase inhibiting compounds.

Applicant claims compounds with a general formula Ib:

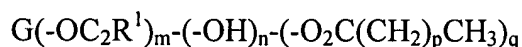


wherein all the variables are as defined in the claim.

Cheng discloses compounds, which share the same formulaic compounds. (See formula 1, Abstract). The compounds in the said reference have the same structure, which includes  $R^1$  and  $R^2$  as H or alkyl, X as O, S CHR, CHRO and CHRS, Y as a bond or CHR, Z as an aryl or heteroraryl group and W as a bicyclic heteroaryl, and falls within the range of Applicant's compounds. (See pages 2-15 and Examples). Since Cheng teaches the exact compounds, Applicant's claims are anticipated, and thus, rejected under 35 U.S.C. §102(b)."

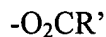
Applicants have studied Cheng et al. and cannot find any compounds that teaches or suggests Applicants' compounds as claimed.

None of the Cheng et al. compounds are triglyceride or triglyceride-like prodrugs of the structure

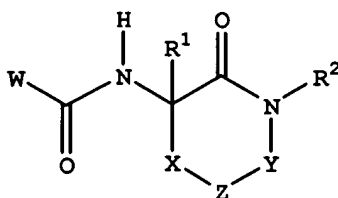


as defined by the Applicants.

None of the Cheng et al. compounds includes Applicants' moiety



where  $R'$  is a fragment of a compound of the formula



None of the compounds of Cheng et al. includes a triglyceride prodrug or includes the above- $O_2CR'$  group.

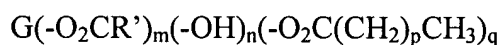
In addition, Cheng et al. do not disclose or suggest the triglyceride-like prodrugs as claimed herein.

In view of the above, it is clear that Applicant's compounds as claimed are not anticipated by Cheng et al.

Claims 1 to 11 are rejected under 35 U.S.C. §102(b) as being anticipated by Rath et al. (EP 0978279 A1).

“Rath discloses compounds, which share the same formulaic compounds. (See Abstract). The compounds in the said reference have the same structure, which includes  $R^1$  and  $R^2$  as H or alkyl, X as O, S, CHR, CHRO and CHRS, Y as a bond or CHR, Z as an aryl or heteroaryl group and W as a bicyclic heteroaryl, and falls within the range of Applicants’ compounds. (See pages 11-26 and Examples). Since Rath teaches the exact compounds, Applicant’s claims are anticipated, and thus, rejected under 35 U.S.C. §102(b).”

None of the Rath et al. compounds are triglyceride or triglyceride-like prodrugs of the structure

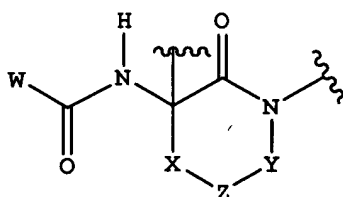


as defined by the Applicants.

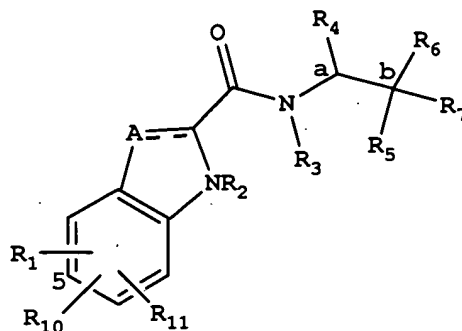
None of the Rath et al. compounds include Applicants’ moiety



where  $R'$  is a fragment of a compound of the formula



Rath et al. discloses compounds of the structure



Formula 1

and the pharmaceutically acceptable salts and prodrugs thereof  
wherein

the dotted line (---) is an optional bond;

R<sub>2</sub> is H;

R<sub>3</sub> is H or (C<sub>1</sub>-C<sub>5</sub>)alkyl;

R<sub>4</sub> is methyl, ethyl, n-propyl, hydroxyl(C<sub>1</sub>-C<sub>3</sub>)alkyl, (C<sub>1</sub>-C<sub>3</sub>)alkoxy(C<sub>1</sub>-C<sub>3</sub>)alkyl, phenyl(C<sub>1</sub>-C<sub>4</sub>)alkyl, phenylhydroxy (C<sub>1</sub>-C<sub>4</sub>) alkyl, phenyl(C<sub>1</sub>-C<sub>4</sub>)alkoxy(C<sub>1</sub>-C<sub>4</sub>)alkyl, thien-2- or -3-yl((C<sub>1</sub>-C<sub>4</sub>)alkyl or fur-2- or -3-yl(C<sub>1</sub>-C<sub>4</sub>)alkyl wherein said R<sub>4</sub> rings are mono-, di or tri-substituted independently on carbon with H, halo, (C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>1</sub>-C<sub>4</sub>)alkoxy, trifluoromethyl, hydroxyl, amino or cyano; or

R<sub>4</sub> is pyrid-2-, -3- or -4-yl(C<sub>1</sub>-C<sub>4</sub>)alkyl, thiazol-2-, -4- or -5-yl(C<sub>1</sub>-C<sub>4</sub>)alkyl, imidazol -1-, -2-, -4- or -5-yl(C<sub>1</sub>-C<sub>4</sub>)alkyl, pyrrol-2- or -3-yl(C<sub>1</sub>-C<sub>4</sub>)alkyl, oxazol-2-, -4- or -5-yl-(C<sub>1</sub>-C<sub>4</sub>)alkyl, pyrazol-3-, -4- or -5-(C<sub>1</sub>-C<sub>4</sub>)alkyl, isoxazol-3-, -4- or -5-yl(C<sub>1</sub>-C<sub>4</sub>)alkyl, isothiazol-3-, -4- or -5-yl(C<sub>1</sub>-C<sub>4</sub>)alkyl, pyridazin-3- or -4-yl-(C<sub>1</sub>-C<sub>4</sub>)alkyl, pyrimidin-2-, -4-, -5- or -6-yl(C<sub>1</sub>-C<sub>4</sub>)alkyl, pyrazin-2- or -3-yl(C<sub>1</sub>-C<sub>4</sub>)alkyl or 1,3,5-triazin-2-yl(C<sub>1</sub>-C<sub>4</sub>)alkyl, wherein said preceding R<sub>4</sub> heterocycles are optionally mono- or di-substituted independently with halo, trifluoromethyl, (C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>1</sub>-C<sub>4</sub>)alkoxy, amino or hydroxyl and said mono- or di-substituents are bonded to carbon;

R<sub>5</sub> is H, hydroxyl, fluoro, (C<sub>1</sub>-C<sub>5</sub>)alkyl, (C<sub>1</sub>-C<sub>5</sub>)alkoxy, (C<sub>1</sub>-C<sub>6</sub>)alkanoyl, amino(C<sub>1</sub>-C<sub>4</sub>)alkoxy, mono-N- or di-N, N-(C<sub>1</sub>-C<sub>4</sub>)alkylamino(C<sub>1</sub>-C<sub>4</sub>)alkoxy, carboxy(C<sub>1</sub>-C<sub>4</sub>)alkoxy, (C<sub>1</sub>-C<sub>5</sub>)alkoxy-carbonyl(C<sub>1</sub>-C<sub>4</sub>)alkoxy, benzyloxycarbonyl (C<sub>1</sub>-C<sub>4</sub>)alkoxy, or carbonyloxy wherein said carbonyloxy is carbon-carbon linked with phenyl, thiazolyl, imidazolyl, 1H-indolyl, furyl, pyrrolyl, oxazolyl, pyrazolyl, isoxazolyl, isothiazolyl, pyridazinyl, pyrimidinyl, pyrazinyl or 1,3,5-

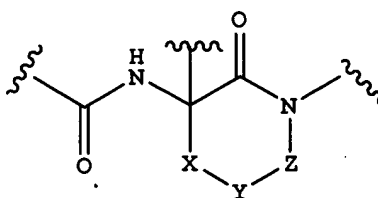
triazinyl and wherein said preceding R<sub>5</sub> rings are optionally mono-substituted with halo, (C<sub>1</sub>-C<sub>4</sub>)alkyl, (C<sub>1</sub>-C<sub>4</sub>)alkoxy, hydroxyl, amino or trifluoromethyl and said mono-substituents are bonded to carbon;

R<sub>7</sub> is H, fluoro or (C<sub>1</sub>-C<sub>5</sub>)alkyl; or

R<sub>5</sub> and R<sub>7</sub> can be taken together to be oxo; and

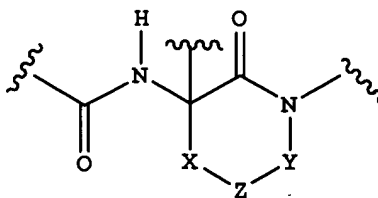
R<sub>6</sub> is carboxy, or (C<sub>1</sub>-C<sub>8</sub>)alkoxycarbonyl or C(O)NR<sub>8</sub>R<sub>9</sub> or C(O)R<sub>12</sub>.

However, none of the compounds include the fragment



which must be present in Applicants' prodrug.

Please note that none of the Rath et al. formula I compounds set out above, or the formulae II and III compounds set out on pages 12 to 14 includes the moiety



Where the Rath et al. R<sub>4</sub> group includes a heterocyclic ring, the heterocyclic is always attached to an alkyl and is not directly attached to the N of an  $\text{—}\overset{\text{O}}{\parallel}{\text{C}}\text{—N—}$  group.

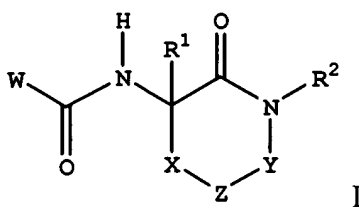
In addition, Rath et al. does not disclose or suggest triglyceride-like prodrugs as claimed therein.

In view of the foregoing, it is clear that Applicants compounds as claimed are not anticipated by Rath et al.

Claims 1 to 11 are also rejected under 35 U.S.C. §103(a) as being obvious in view of Cheng et al. or Rath et al..

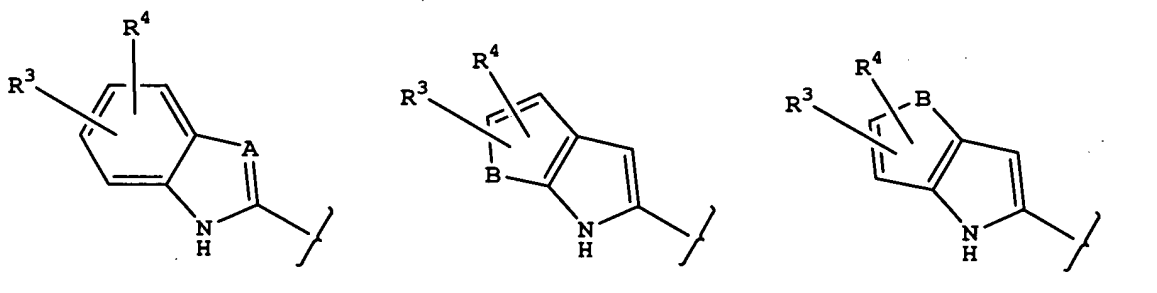
The comments on Cheng et al. and Rath et al. as set out above apply here as well to show that Applicants' compounds as claimed herein are patentable over Cheng et al. and Rath et al. each taken alone or in combination. The various differences between Applicants' compounds as claimed and the Cheng et al. and Rath et al. compounds are material and would be unobvious to one skilled in the art. Accordingly, it is submitted that Applicants' triglycerides as claimed herein in Claims 1 to 11 are patentable over Cheng et al. and Rath et al.

Applicants wish to call to the Examiner's attention co-pending U.S. Application Serial No. 10/440,851 filed May 19, 2003 which disclose lactam glycogen phosphorylase inhibitors of the structure



wherein

W is a bicyclic heteroaryl of the structure

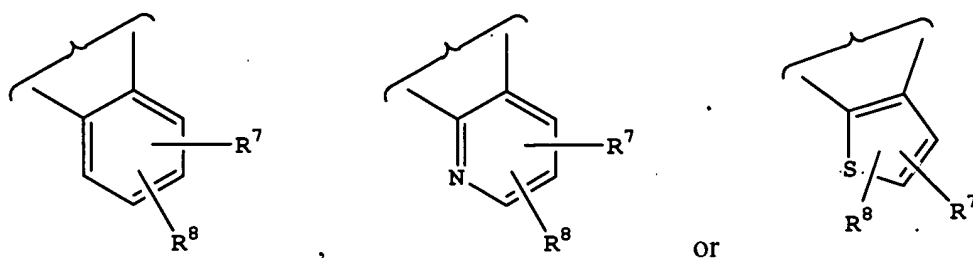


X can be  $-\text{CHR}^5-$  or  $-\text{CH}_2\text{CHR}^5-$ ;

Y is a bond or  $-\text{CHR}^6-$ ;

Z is an aryl or heteroaryl group and can be





A is -CH- or -N-; and

B is -O- or -S-.

Co-pending application 10/440,851 does not disclose or suggest triglyceride or triglyceride-like prodrugs as claimed herein. Therefore, the compounds claimed herein are patentable over co-pending application Serial No. 10/440,851.

In view of the foregoing, it is submitted that all formal objections have been dealt with and Claims 1 to 11 are patentable over Cheng et al. Rath et al. and co-pending application 10/440,851. Thus, it is submitted that Claims 1 to 11 are in condition for allowance.

Respectfully submitted,

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